Retro-Reflex Sensor
for Clear Glass Recognition

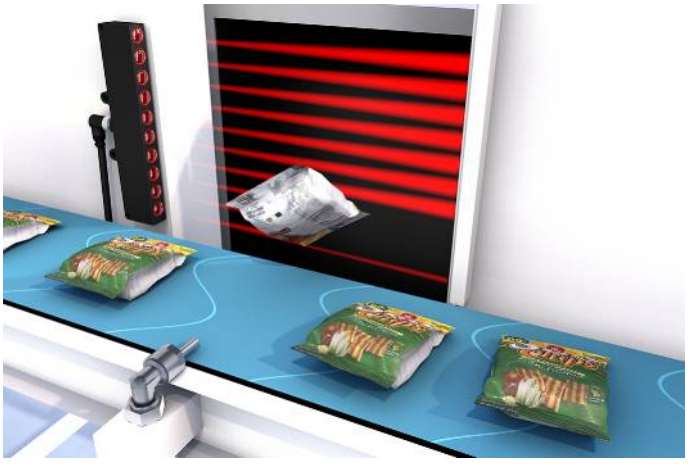
OPT1012
Part Number

- **External teach-in**
- **Recognition of clear glass**
- **Red light**
- **Single-lens optic**
- **Stainless steel plug (V2A)**

Technical Data

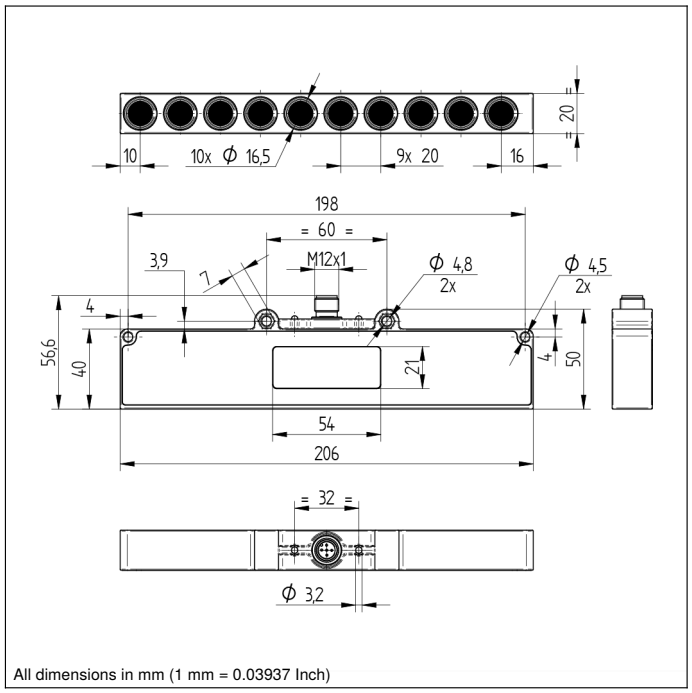
Optical Data	
Range	4000 mm
Reference Reflector/Reflector Foil	3 × RQ100BA
Clear Glass Recognition	yes
Switching Hysteresis	< 15 %
Light Source	Red Light
Polarization Filter	yes
Service Life (T = +25 °C)	100000 h
Max. Ambient Light	10000 Lux
Single-Lens Optic	yes
Electrical Data	
Supply Voltage	10...30 V DC
Current Consumption (Ub = 24 V)	< 70 mA
Switching Frequency	400 Hz
Response Time	1,25 ms
Temperature Drift	< 10 %
Temperature Range	-25...60 °C
Switching Output Voltage Drop	< 2,5 V
NPN Switching Output/Switching Current	200 mA
Residual Current Switching Output	< 50 µA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Protection Class	III
Mechanical Data	
Setting Method	Input
Housing Material	Plastic
Full Encapsulation	yes
Degree of Protection	IP67
Connection	M12 × 1; 4/5-pin
NPN NO	●
Connection Diagram No.	350
Control Panel No.	A37
Suitable Connection Equipment No.	2

A reflector must be used in combination with these sensors. A single housing contains ten sensors which are linked by an OR-logic. The output switches as soon as one of the beams is interrupted. As a result, large areas are easy to monitor. Even crystal-clear objects and sheet products can be reliably recognized.



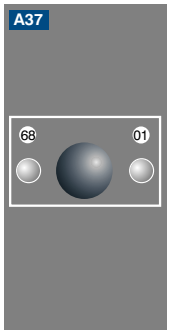
Complementary Products

Reflector, Reflector Foil

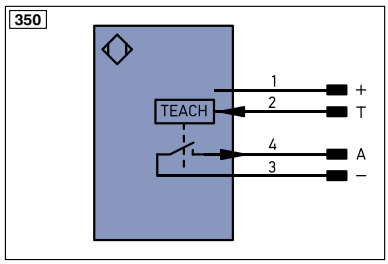


All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



01 = Switching Status Indicator
68 = Supply Voltage Indicator



Legend

+	Supply Voltage +	PT	Platinum measuring resistor	$EN_{A\overline{A}}$	Encoder A/Ā (TTL)
–	Supply Voltage 0 V	nc	not connected	$EN_{B\overline{B}}$	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	EN_A	Encoder A
A	Switching Output (NO)	$\overline{U}$	Test Input inverted	EN_B	Encoder B
Ā	Switching Output (NC)	W	Trigger Input	A_{MIN}	Digital output MIN
V	Contamination/Error Output (NO)	W–	Ground for the Trigger Input	A_{MAX}	Digital output MAX
$\overline{V}$	Contamination/Error Output (NC)	O	Analog Output	A_{OK}	Digital output OK
E	Input (analog or digital)	O–	Ground for the Analog Output	SY In	Synchronization In
T	Teach Input	BZ	Block Discharge	SY OUT	Synchronization OUT
Z	Time Delay (activation)	AW	Valve Output	O_{LT}	Brightness output
S	Shielding	a	Valve Control Output +	M	Maintenance
RxD	Interface Receive Path	b	Valve Control Output 0 V	rsv	reserved
TxD	Interface Send Path	SY	Synchronization	Wire Colors according to IEC 60757	
RDY	Ready	SY–	Ground for the Synchronization	BK	Black
GND	Ground	E+	Receiver-Line	BN	Brown
CL	Clock	S+	Emitter-Line	RD	Red
E/A	Output/Input programmable	⏚	Grounding	OG	Orange
	IO-Link	SnR	Switching Distance Reduction	YE	Yellow
PoE	Power over Ethernet	Rx+/–	Ethernet Receive Path	GN	Green
IN	Safety Input	Tx+/–	Ethernet Send Path	BU	Blue
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(–)	VT	Violet
Signal	Signal Output	La	Emitted Light disengageable	GY	Grey
Bl_D+/–	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation	WH	White
$EN_{0\overline{0}}$	Encoder 0-pulse 0-0̄ (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contactor Monitoring	GNYE	Green/Yellow

Feasible reflector distance

Reflector type, mounting distance

RQ100BA	0...4 m	**ZRME03B01**	0...1 m
RE6151BM	0...3 m	**RF505**	0...0,8 m
RE6040BA	0...3,7 m	**ZRAF08K01**	0...0,8 m
Z90R006	0...1,4 m	**ZRDF10K01**	0...1,5 m
ZRAE02B01	0...0,5 m		